

Infant and young child nutrition: quadrennial progress report

Report by the Secretariat

1. This report provides information on the implementation of the Global Strategy for Infant and Young Child Feeding; the status of national measures to give effect to the International Code of Marketing of Breast-milk Substitutes; complementary foods; WHO Child Growth Standards; types of malnutrition; and childhood obesity.

2. Achieving the health-related Millennium Development Goals and targets depends on reducing malnutrition, which is associated with about one third of the nine million deaths among children under five annually.¹ About 112 million children worldwide are underweight and 178 million children under five are stunted; 90% of these children live in 36 countries. Every year an estimated 13 million children are born with intrauterine growth restriction.² The double burden of, first, malnutrition (including undernutrition), and micronutrient deficiencies, and, secondly, overweight/obesity is an increasing public health problem. The direct and indirect costs of malnutrition are considerable but have yet to be fully recognized.

3. Malnutrition in children is frequently related to inappropriate infant and young child feeding practices. Globally, only 34.6% of infants less than six months of age are exclusively breastfed, with the figure ranging from 43.2% in the South-East Asia Region to 17.7% in the European Region.² Progress has been uneven and, globally, exclusive breastfeeding rates are stagnating. In the past 10 years, some countries have achieved remarkable increases of 20% or more of exclusive breastfeeding rates. In Cambodia, the implementation of a comprehensive policy, including communication, training of health workers, pre-service curriculum development and support for the Baby-friendly Hospital Initiative and Baby-friendly Community Initiative has led to a 50% increase in the exclusive breastfeeding rate in only five years. Unfortunately, in some other countries the rates have dropped, in some cases by more than 10%; low coverage of activities, a non-comprehensive approach, poor implementation of appropriate policies and legislation, weak health system capacity, and absence of performance monitoring are contributing factors.

4. Complementary feeding practices are often far from optimal, with foods of poor quality, limited variety, not hygienically prepared, and given in too small amounts or not frequently enough.

¹ World Health Statistics 2009.

² Black RE et al. Maternal and child undernutrition: global and regional exposures and health consequences. *Lancet*. 2008, **371**(9608):243–260.

5. Growth failure during intrauterine life, and poor nutrition in the first two years of life have critical consequences throughout the life-course. Type 2 diabetes and hypertension are more frequent in individuals born with low weight, while adults who were breastfed as babies often have lower blood pressure and lower cholesterol, as well as lower rates of overweight, obesity and type 2 diabetes.¹

IMPLEMENTATION OF THE GLOBAL STRATEGY FOR INFANT AND YOUNG CHILD FEEDING

6. The Global strategy for infant and young child feeding² and its companion planning guide³ have triggered increased efforts to improve feeding practices and most Member States have taken steps to implement the strategy's nine operational targets. Infant and young child nutrition requires promotion both at community level and in the health service. Implementation on a large scale can change breastfeeding practices in a fairly short time. For example, in Madagascar, one year after programme implementation, sizeable changes were achieved in programme areas with the exclusive breastfeeding rate almost doubling, from 46% to 83%.

7. In the African Region, more than 32 countries have developed national strategies and implementation plans. Elsewhere, the global strategy has also been adopted as an integral part of strategies for child survival (Cambodia, China, Lao People's Democratic Republic, Mongolia, Papua New Guinea, Philippines, Viet Nam), child nutrition (Plurinational State of Bolivia and Peru), and newborn survival (India).

8. To assist in the development of national strategies and action plans, WHO and partners have undertaken a Landscape Analysis on countries' readiness to accelerate action in nutrition, and are currently undertaking a global review of policy implementation. WHO is preparing an electronic library for nutrition programme guidance to provide comprehensive advice in the choice of effective interventions and priority actions to improve infant nutrition and growth.

Strengthening the health system

9. The Baby-friendly Hospital Initiative has grown, with more than 20 000 hospitals having been designated in 156 countries around the world over the past 15 years. In 36 industrialized countries, 37% of births take place in baby-friendly health facilities.

10. The Initiative's criteria have been updated to reflect new evidence, including the importance of early initiation of exclusive breastfeeding for child survival and are now used as quality-of-care indicators and the baby-friendly designation has been made a requirement for hospital accreditation.

11. Many countries have expanded pre-service and in-service training of health professionals in counselling on infant and young child feeding. The WHO integrated course on infant and young child

¹ Horta BL et al. *Evidence of long-term effects of breastfeeding: systematic reviews and meta-analysis*. Geneva, World Health Organization, 2007.

² Document WHA55/2002/REC/1, Annex 2.

³ World Health Organization, UNICEF. *Planning guide for national implementation of the global strategy for infant and young child feeding*. Geneva, World Health Organization, 2007.

feeding is being implemented in 42 countries and exists in several languages;¹ rosters of regional master trainers are available from headquarters and regional offices.

12. WHO is supporting capacity building through the preparation of teaching materials.² The acceptable medical reasons for use of breast-milk substitutes, for use in the Initiative, in pre-service and in-service training of health professionals have been updated.³

Community support

13. To appropriately feed their children, carers need support, not only in the health system but also the community. There is ample evidence that interventions delivered at home and in the community can have a major effect in improving infant feeding practices.

14. In 2008, WHO and partners published the results of a review of effective approaches to engage communities for better protection, promotion and support of infant and young child feeding.⁴ WHO and UNICEF are finalizing a package of training materials on caring for newborn infants and children at the community level that includes modules to support appropriate infant and young child feeding; this package is due to be published by the end of 2009.

INTERNATIONAL CODE OF MARKETING OF BREAST-MILK SUBSTITUTES

15. The status of national measures to give effect to the Code is currently being analysed and a final picture will be available in early 2010. A limited number of countries have developed legislation covering all or some aspects of the Code, while in many others measures are voluntary or are still in the process of being drafted. A wider application of the principles of the Code would facilitate the improvement of breastfeeding rates.

16. In response to the request to the Director-General in resolution WHA61.20 for intensification of support to Member States in implementing the Code, the Secretariat conducted an internal review process and identified six areas for action: advocacy, operational research, training, technical assistance in policy development and legislative reform, and monitoring. Actions will be initiated in the biennium 2010–2011, subject to sufficient funding.

¹ Chinese, French, Portuguese, Spanish; a Russian version will be ready by end 2009.

² World Health Organization *Infant and young child feeding: Model Chapter for textbooks for medical students and allied health professionals*. Geneva, World Health Organization, 2009.

³ Document WHO/NMH/NMD/09.01–WHO/FCH/CAH/09.01.

⁴ WHO, UNICEF, Academy for Educational Development/United States Agency for International Development. *Learning from large-scale community based programmes to improve breast-feeding practices*. Geneva, World Health Organization, 2008.

COMPLEMENTARY FEEDING

17. WHO and UNICEF convened a technical meeting to identify priorities for scaling up action.¹ It was acknowledged that community interventions, including counselling on feeding practices and optimal use of locally available foods, should be the cornerstone of any programme to improve complementary feeding. In addition, participants recognized that centrally produced fortified foods, micronutrient powders and lipid-based nutrient supplements have been shown to be effective in improving micronutrient status. Carefully monitored applications at scale are needed to generate more evidence on the use of these products. In all instances, their promotion should be compliant with the Code and World Health Assembly resolutions. More specific recommendations relative to the marketing of complementary food are being studied.

18. Tools based on the linear programming technique² are being developed to help to identify balanced complementary diets at lowest cost using locally available food and micronutrient supplements or fortified foods as needed. They will become available for field application in 2010.

19. Updated indicators for assessing infant and young child feeding practices in a given population were published in 2008, including new indicators of dietary diversity, feeding frequency and iron consumption. An operational guide on measurement issues will become available in 2010, together with an update of indicator values for over 40 countries with data from Demographic and Health Surveys.

WHO CHILD GROWTH STANDARDS

20. More than 100 countries have officially adopted the WHO Child Growth Standards and are at various stages of implementation. Application of the standards has prompted many countries and child health agencies to increase investment in programmes to reduce undernutrition while also taking steps towards controlling the emerging epidemic of obesity. Concrete efforts are being undertaken to establish nutrition surveillance systems to monitor the double burden of malnutrition in children under-five years old using WHO's Anthro software,³ and among school-age children and adolescents using the WHO 2007 growth reference and corresponding software tools.

¹ WHO/UNICEF. *Strengthening action to improve feeding of infants and young children 6–23 months of age in nutrition and child health programmes*. Geneva, 6–9 October, 2008. Report of Proceedings. Geneva, World Health Organization, 2008.

² *Linear programming: a mathematical tool for analyzing and optimizing children's diets during the complementary feeding period, and ProPAN: "Process for the promotion of child feeding"* (in the original Spanish, *Proceso para la Promoción de la Alimentación del Niño*. Emory University, Atlanta, United States of America; Nutrition Research Institute, Peru; National Institute of Public Health, Mexico; and Pan American Health Organization, Washington, DC, United States of America. <http://www.paho.org/english/ad/fch/nu/ProPAN-index.htm>.

³ <http://www.who.int/childgrowth/software/en/>.

SEVERE AND MODERATE MALNUTRITION

21. An interagency statement on the community-based management of severe acute malnutrition was published in 2007.¹ Evidence shows that it is possible to manage a large proportion of severely malnourished children at home using ready-to-use therapeutic foods, and combined with inpatient care, this approach could prevent many child deaths each year. In the African Region, WHO supported capacity development on management of severe malnutrition in eight countries.

22. An interagency consultation on dietary management of moderate malnutrition in children (2008)² discussed estimates of nutritional requirements, and approaches for management of children with moderate malnutrition, in particular wasting. WHO has now established a technical group that is defining specifications of diets or food supplements suitable for the recovery of moderately malnourished children aged 6 to 59 months; a second consultation to determine the best options for programme delivery is scheduled to be held in December 2009. WHO is also reviewing the evidence for effective interventions to address stunting in young children.

MICRONUTRIENT MALNUTRITION

23. Updated estimates of anaemia indicate that 47.4% of the preschool-age population is affected; it is calculated that 50% to 60% of the cases are due to iron deficiency.³ The highest percentage of preschool-age children affected is in the African Region, while the greatest overall numbers are in the South-East Asia Region.

24. An estimated 33.3% of the preschool-age population globally is vitamin A deficient (serum retinol concentration of less than 0.70 µmol/l).⁴ The African and South-East Asia regions have the highest proportions of preschool-age children with vitamin A deficiency. A review conducted in 2007 as part of the “Countdown to 2015: Tracking Progress in Maternal, Newborn and Child Survival” initiative identified vitamin A supplementation as an intervention that has been successfully scaled up in 66 of 68 countries with a high burden of child deaths.

CHILDHOOD OBESITY

25. There has been a rapid rise in the numbers of children affected by excessive body weight, especially in developed countries and in countries in economic transition. The number of overweight

¹ World Health Organization, WFP, United Nations Standing Committee on Nutrition, UNICEF. *Community-based management of severe acute malnutrition: A Joint Statement by the World Health Organization, the World Food Programme, the United Nations System Standing Committee on Nutrition and the United Nations Children's Fund*. Geneva, World Health Organization and UNICEF, 2007.

² http://www.who.int/nutrition/publications/moderate_malnutrition/mm_report/en/index.html.

³ World Health Organization, United Nations Standing Committee on Nutrition. *Worldwide prevalence of anaemia 1993–2005: WHO Global Database on Anaemia*. de Benoit B, McLean E, Egli I, Cogswell M (eds.). Geneva, World Health Organization, 2008.

⁴ World Health Organization. *Global prevalence of vitamin A deficiency in populations at risk 1995–2005: WHO Global Database on Vitamin A Deficiency*. Geneva, World Health Organization, 2009.

and obese (i.e. +2 standard deviations or more above the median of the WHO standards) preschool children in developing and developed countries in 2010 is estimated at 44 million.

26. WHO has developed reference data for assessing the problem, is working to identify appropriate cut-off points that define when a person is overweight or obese, and is providing technical assistance to Member States in order to map the extent of this global epidemic and to identify cost-effective interventions. Intrauterine life, infancy, and preschool periods have all been considered as possible critical periods during which the long-term regulation of energy balance may be programmed.

INFANT FEEDING IN EMERGENCIES

27. WHO, as member of the Infant Feeding in Emergencies Core Group, contributed to the revision of the Infant and Young Child Feeding in Emergencies: Operational Guidance for Emergency Relief Staff and Programme Managers (February 2007),¹ and is drawing up norms and standards for use in emergency nutrition response while contributing to joint assessment and planning activities.

NUTRITION AND HIV

28. WHO continues to review and consolidate scientific evidence on the effect of HIV infection and macronutrients, micronutrients, infant feeding, pregnant and lactating women, growth failure in children, and the nutritional consideration for use of antiretroviral agents. A guideline development meeting was planned for October 2009 to revise and update recommendations on infant feeding in the context of HIV. WHO and partners are developing a framework for priority actions on nutrition and HIV/AIDS in order to facilitate a comprehensive response for nutrition in HIV programming.

29. Technical consultations on nutrition and HIV were convened at regional level to discuss integration of activities on nutrition and HIV and highlighting steps to translate science into workplans. The Secretariat provided technical support to 29 countries in the African Region for the integration of HIV-related activities into those relating to infant and young child feeding; 11 countries received support for integrating nutrition into HIV funding proposals, and five have strengthened the monitoring and evaluation component of nutrition interventions in HIV settings.

30. The Regional Office for Africa established a core group of experts on scaling up prevention of mother-to-child transmission of HIV and treatment for paediatric HIV/AIDS interventions. WHO-supported research in Burkina Faso, Kenya and South Africa has identified antiretroviral regimes that reduce the risk of HIV transmission through breastfeeding; this raises the prospect of simplifying the counselling and support needed and facilitating strategies to improve infant feeding practices among all mothers in HIV-affected communities.

31. Several initiatives have been implemented in order to strengthen the capacities of health providers. A short course for community level providers on nutritional care and support for people living with HIV/AIDS has been used in sub-Saharan Africa and a course on the use of guidelines for nutritional care of children living with HIV (six months to 14 years) is being field-tested.

¹ <http://www.ennonline.net/resources/view.aspx?resid=6>.

32. WHO is also collaborating with partners in development of monitoring and evaluation tools including indicators on prevention of mother-to-child transmission of HIV, nutrition and food security.

33. Breastfeeding is today the single most effective preventive intervention for improving the survival and health of children. It is estimated that more than one million deaths in children under the age of five could be prevented every year with the improvement of breastfeeding practices. Additionally, the deaths of more than half a million children can be prevented annually by adequate and timely complementary feeding. Scaling up of interventions is urgently required and a global action plan on nutrition is currently being discussed by WHO and partner agencies.

ACTION BY THE EXECUTIVE BOARD

34. The Executive Board is invited to note the report and, given the urgency described above (paragraph 33), to advise on suitable measures to renew and sustain action in this area.

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